Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

1. (currently amended) A method of diagnosing or prognosticating a neurodegenerative disease~~, in particular Alzheimer's disease,~~ in a subject, or determining whether a subject is at increased risk of developing said disease, comprising:

determining a level and/or an activity of

(i) a transcription product of the foap-13 gene, and/or

(ii) a translation product of the foap-13 gene and/or

(iii) a fragment, or derivative, or variant of said transcription or translation product, in a sample obtained from said subject and comparing said level and/or said activity to a reference value representing a known disease or health status, thereby diagnosing or prognosticating said neurodegenerative disease in said subject, or determining whether said subject is at increased risk of developing said neurodegenerative disease.

2. (currently amended) A kit for diagnosing or prognosticating a neurodegenerative disease~~, in particular Alzheimer's disease,~~ in a subject, or determining the propensity or predisposition of a subject to develop such a disease by the steps of:

(i) detecting in a sample obtained from said subject a level, or an activity, or both said level and said activity of a transcription product and/or of a translation product of a gene coding for foap-13, and (ii) comparing said level or activity, or both said level and said activity of a transcription product and/or of a translation product of a gene coding for foap-13 to a reference value representing a known health status and/or to a reference

value representing a known disease status, and said level, or activity, or both said level and said activity, of said transcription product and/or said translation product is varied compared to a reference value representing a known health status, and/or is similar or equal to a reference value representing a known disease status, said kit comprising:

a) at least one reagent which is selected from the group consisting of (i) reagents that selectively detect a transcription product of a gene coding for foap-13 and (ii) reagents that selectively detect a translation product of a gene coding for foap-13.

3. (previously presented) A modulator of an activity and/or of a level of at least one substance which is selected from the group consisting of

(i) the foap-13 gene and/or

(ii) a transcription product of the foap-13 gene and/or

(iii) a translation product of the foap-13 gene, and/or

(iv) a fragment, or derivative, or variant of (i) to (iii).

4. (previously presented) A recombinant, non-human animal comprising a non-native foap-13 gene sequence or a fragment, or a derivative, or a variant thereof, said animal being obtainable by:

(i) providing a gene targeting construct comprising said gene sequence and a selectable marker sequence, and

(ii) introducing said targeting construct into a stem cell of a non-human animal, and

(iii) introducing said non-human animal stem cell into a non-human embryo, and

(iv) transplanting said embryo into a pseudopregnant non-human animal, and

(v) allowing said embryo to develop to term, and

(vi) identifying a genetically altered non-human animal whose genome comprises a modification of said gene sequence in both alleles, and

(vii) breeding the genetically altered non-human animal of step (vi) to obtain a genetically altered non-human animal whose genome comprises a modification of said endogenous gene, wherein said disruption results in said non-human animal exhibiting a predisposition to developing symptoms of a neurodegenerative disease or related diseases or disorders.

5. (currently amended) An assay for screening for a modulator of neurodegenerative diseases~~, in particular Alzheimer's disease,~~ or related diseases or disorders of one or more substances selected from the group consisting of

(i) the foap-13 gene, and/or

(ii) a transcription product of the foap-13 gene, and/or

(iii) a translation product of the foap-13 gene, and/or

(iv) a fragment, or derivative, or variant of (i) to (iii),

said ~~method~~ assay comprising:

(a) contacting a cell with a test compound;

(b) measuring the activity and/or level of one or more substances recited in (i) to (iv);

(c) measuring the activity and/or level of one or more substances recited in (i) to (iv) in a control cell not contacted with said test compound; and comparing the levels and/or activities of the substance in the cells of step (b) and (c), wherein an alteration in

the activity and/or level of substances in the contacted cells indicates that the test compound is a modulator of said diseases or disorders.

6. (currently amended) A method of screening for a modulator of neurodegenerative diseases~~, in particular Alzheimer's disease,~~ or related diseases or disorders of one or more substances selected from the group consisting of

(i) the foap-13 gene, and/or

(ii) a transcription product of the foap-13 gene, and/or

(iii) a translation product of the foap-13 gene, and/or

a fragment, or derivative, or variant of (i) to (iii),

said method comprising:

(a) administering a test compound to a non-human test animal which is predisposed to developing or has already developed symptoms of a neurodegenerative disease or related diseases or disorders in respect of the substances recited in (i) to (iv);

(b) measuring the activity and/or level of one or more substances recited in (i) to (iv);

(c) measuring the activity and/or level of one or more substances recited in (i) or (iv) in a matched non-human control animal which is predisposed to developing or has already developed symptoms of a neurodegenerative disease or related diseases or disorders in respect to the substances recited in (i) to (iv) and to which non-human animal no such test compound has been administered;

(d) comparing the activity and/or level of the substance in the animals of step (b) and (c), wherein an alteration in the activity and/or level of substances in the non-

human test animal indicates that the test compound is a modulator of said diseases or disorders.

7. (previously presented) The method according to claim 6 wherein said non-human test animal and/or said non-human control animal is a recombinant non-human animal which expresses foap-13, or a fragment, or a derivative, or a variant thereof, under the control of a transcriptional control element which is not the native foap-13 gene transcriptional control element.

8. (currently amended) An assay for testing one or more ~~a compound, preferably for screening a plurality of~~ compounds to determine the degree of binding of said compounds to foap-13 protein, or to a fragment, or derivative, or variant thereof, said assay comprising the steps of:

(i) adding a liquid suspension of said foap-13 protein, or a fragment, or derivative, or variant thereof, to a plurality of containers;

(ii) adding a detectable, ~~in particular a fluorescently~~ labelled compound or a plurality of detectable, ~~in particular fluorescently~~ labelled compounds to be screened for said binding to said plurality of containers;

(iii) incubating said foap-13 protein, or said fragment, or derivative, or variant thereof, and said detectable, ~~in particular fluorescently~~ labelled compound or ~~fluorescently~~ detectable, labelled compounds;

(iv) measuring amounts of ~~preferably fluorescence~~ detectable label associated with said foap-13 protein, or with said fragment, or derivative, or variant thereof; and

(v) determining the degree of binding by one or more of said compounds to said foap-13 protein, or said fragment, or derivative, or variant thereof.

9. (currently amended) ~~Use of a protein molecule, said protein molecule being~~ The method of claim 1, comprising determining a level and/or an activity of a translation product of the gene coding for foap-13, SEQ ID NO. 2, or a fragment, or derivative, or variant thereof~~, as a diagnostic target for detecting a neurodegenerative disease, preferably Alzheimer's disease~~.

10. (currently amended) ~~Use of a protein molecule, said protein molecule being~~ A method of screening for a reagent or a compound for preventing, or treating, or ameliorating a neurodegenerative disease, the method comprising determining a level and/or an activity of a translation product of the gene coding for foap-13, SEQ ID NO. 2, or a fragment, or derivative, or variant thereof~~, as a screening target for reagents or compounds preventing, or treating, or ameliorating a neurodegenerative disease, preferably Alzheimer's disease~~.

11. (currently amended) ~~Use of~~ A method for detecting a pathological state of a cell in a sample obtained from a subject, comprising immunocytochemical staining of said cell with an antibody specifically immunoreactive with an immunogen, wherein said immunogen is a translation product of the gene coding for foap-13, SEQ ID NO. 2, or a fragment, or derivative, or variant thereof, ~~for detecting the pathological state of a cell in a sample obtained from a subject, comprising immunocytochemical staining of said cell with said antibody,~~ wherein an altered degree of staining, or an altered staining pattern in said cell compared to a cell representing a known health status indicates a pathological state of said cell which relates to Alzheimer's disease.

12. (new) The method of claim 1, wherein said neurodegenerative disease is Alzheimer's disease.

13. (new) The method of claim 2, wherein said neurodegenerative disease is Alzheimer's disease.

14. (new) The method of claim 5, wherein said neurodegenerative disease is Alzheimer's disease.

15. (new) The method of claim 6, wherein said neurodegenerative disease is Alzheimer's disease.

16. (new) The assay of claim 8, wherein the detectable, labelled compounds are fluorescently labelled compounds.

17. (new) The assay of claim 8, wherein the detectable label is fluorescence.

18. (new) The method of claim 9, wherein said neurodegenerative disease is Alzheimer's disease.

19. (new) The method of claim 10, wherein said neurodegenerative disease is Alzheimer's disease.